

2010 HANGAR 111 AEMC SPRINT CHAMPIONSHIP - Guidance notes

For 2010 we are obliged to stick to the MSA Blue Book Categories. These are shown in section S 10.10 on page 328. However we do not have a Hill Climb category and we have been allowed to amalgamate the two Road-Going and Modified Categories as the only differences relate to quantities produced which helps keep the class numbers down. As a result we have the following categories:-

- A – Road-Going Series/Specialist Production Cars
- B – Modified Limited/Specialist production Cars
- C – Sports Libre Cars
- D – Racing Cars

For what you can or cannot do to a car you need to refer to section J of the Blue Book then S.10 followed by the individual section applicable to the category entered. After you have complied with all those requirements you are free to modify what is left. Below I have tried to structure the regulations in a more usable way. This does not replace your obligation to study and understand the Blue Book.

To start with some regulations applicable to all competitors:

General

- S.7.1.1 Competitors **must** comply with Common Regulations for Competitors (Section H) and the following:
- S.7.1.2 Cars **must** be presented for scrutiny and practice at the times specified in the SRs. Any Scrutineering Ticket relating to a previous event **must** be removed
- S.7.1.4 When signing-on, a valid Competition/Entrant Licence for Entrant and Driver **must** be produced
- S.7.1.5 Any Driver competing in a Racing or Sports Libre car manufactured after 1960 of more than 2000cc (or 1428cc if forced induction) **must** hold a Speed National A (OPEN) or Race National A Licence (H.16.1.1), unless the car is currently licensed for use on the public highway and competes in the venet in a road-legal condition
- S.7.1.6 Competitors **must** declare on their entry forms whether or not they have ever held a valid RTA (Driving) licence. Competitors who have never held a valid RTA licence and who do not have any qualifying signatures towards upgrading their Competition Licence on their Upgrade Card may be specifically observed at the event

Competition Licence Retention and Upgrading

- S.8 See H.16.1.1 and H.16.2.1

Scrutineering

- S.9.1.1 No car may be driven in the event until it has been approved by an MSA Scrutineer of the Meeting
- S.9.1.2 If, after approval, any car is dismantled or modified in a manner that may affect its safety or eligibility, or it is involved in any accident which is likely to have a similar effect, or any aerodynamic device is added or removed, it **shall** be re-presented for approval
- S.9.1.3 The entrant **shall** be responsible for seeking such fresh approval
- S.9.1.6 The SRs should specify if timing is being activated by a light beam. In this case competitors **must** be reminded that a timing strut in accordance with S.10.9 is required

- S.9.1.7 All cars **must** be presented for scrutineering with a valid MSA Log Book or an MSA Recognised Vehicle Identity Document unless the car is currently licensed for use on the public highway and is competing in a road legal condition or is currently used in circuit racing and is entered in an event on an occasional basis only. The onus of proof rests with the competitor
- S.9.1.8 Any alteration or modification made to the vehicle, or any amendment to the original details shown in the vehicle log book, **must** be in accordance with the prescriptions of J.2.1
- S.9.1.9 Vehicles may be liable to annual inspection by a Technical Commissioner or designated Scrutineer if fitted with an engine of greater capacity than that with which it was constructed or altered/modified to cause a change in classification

Drivers

- S.9.2.1 Throughout practice and Competition, all Drivers **must** wear clothing, helmet and goggles complying with K.9 to K.11. Competitors are required to wear flame resistant gloves (no mitts or gloves with open backs)

Numbers

- S.9.2.5 Cars **will** be identified by means of a competition number, allocated by the organisers, which **must** be visible from each side of the vehicle and displayed on a contrasting background in a proper and durable way, acceptable to the Chief Timekeeper of the day (see J.4 for details)
- S.9.2.6 Competition numbers **must** be covered at all times whilst driving on the public highway

The following looks at individual categories and their requirements as well as references to other sections of the Blue book.

All Categories

Safety

- S.10.1.11 With the exception of Racing Cars, the driver **must** sit on the same side as in the original car unless period-defined
- S.10.1.12 Head restraints (K.13) mandatory except for cars of Periods A - E
- S.10.1.13 Fire extinguishers recommended for discharge into cockpit and engine compartment (K.3.1.2(a))

Body

- S.10.2 Ground clearance 4cm minimum
- S.10.2.1(a) Windscreens are mandatory for all closed vehicles. They are free for open vehicles.
- S.10.2.1(b) Laminated windscreens, lamp glass security and rear view mirrors are not required unless specified in SRs or where there is a possibility of one car overtaking another
- S.10.2.1(c) Windscreen wipers **must** be operative on all cars with windscreens

Engines

- S.10.3.1 Forced induction equivalence 1.4
- S.10.3.2 Rotary engine equivalence 1.5
Diesel equivalence 0.7 (AEMC imposed)
- S.10.3.3 **Must** be provided with a means of starting which does not involve push starting except in the case of force majeure, unless period defined
- S.10.3.4 Undertrays **must** be provided with drainage holes to prevent accumulation of liquids
- S.10.3.5 Oil Systems – catch tank capacity – min 1 litre

- S.10.3.6 Silencing – all cars **must** comply with J.5.17 and chart 5.18 (page 158 which still refers to old sections. However, subject to venue restrictions the limits are 108dbA for category A cars and 110dbA for others taken at two thirds max rpm at 0.5m distance)

Wheels and tyres

- 10.4 **Must** have nuts securing road wheels, except those of centre lock type, of steel and in thread contact over a minimum length of 1.5 bolt/stud diameters. Extended or composite wheel bolts/studs are prohibited

Fuel

- S.10.5.3 All vehicles **must** be equipped with an effective method of stopping the fuel supply, operable by the Driver when normally seated and with seat belt secured. This is to be combined with or located adjacent to the internal cut-off switch
- S.10.5.4 Permitted additives may be added in accordance with Nomenclature and Definitions (Section B). Electrically powered vehicles are permitted. Alternative fuels may be permitted subject to MSA approval
- S.10.5.5 K.6 recommended

Electrical

- S.10.6.1 All vehicles **must** be equipped with an ignition cut-off switch having positive 'ON/OFF' positions clearly marked. The ignition cut-off and fuel pumps isolation system(s) **must** be operable by the Driver when normally seated with seat belts secured
- S.10.6.2 Lighting equipment is not required unless the vehicle is currently licensed for use on the public highway and competing on the event in a road legal condition
- S.10.6.3 An external circuit breaker to K.8 is mandatory for all cars except open cars of periods A – E and cars licensed for road use (when it is recommended)

Brakes

- S.10.7.1 The braking system on all four wheels **must** be capable of demonstrating its efficiency without impairing the driver's control when tested immediately prior to the event
- S.10.7.2 Brake balance adjusters **must** not be available for adjustment during running

Transmission

- S.10.8.3 K.12 is recommended for all front engined vehicles

General

- S.10.9 Timing Struts – Where timing is activated by a light beam, the vehicles **will** be fitted at the front with a vertical strut, measuring at least 254mm by 51mm and made of non reflective material painted matt black. The bottom of the strut should be between 180mm and 200mm from the ground. The strut **must** be the furthest forward part of the car

Category A – Road-Going Series/Specialist Production Cars

Classes

1. Up to 1400cc (excluding Appendix 1 and 4 wheel drive cars)
 2. From 1401cc to 2000cc (excluding Appendix 1 and 4 wheel drive cars)
 3. 2001cc and over (excluding Appendix 1 and 4 wheel drive cars)
 4. 4 wheel drive cars of all capacities (excluding Appendix 1 cars)
 5. Appendix 1 cars up to 1700cc
 6. Appendix 1 cars 1701cc and over
- Examples of Appendix 1 cars are – Caterham; Westfield; Sylva; Fisher; Lotus 7, Elise, Exige and 340R; Vauxhall 220; X-Bow and similar type/derivatives of these cars plus replica cars

Description

Series Saloons and Sports Cars produced in quantities of not less than 1000 per annum (S.11.1.1)

Specialist Cars with a minimum annual production of 20 chassis which do not qualify as Road-Going Series Production Cars (S.11.1.2)

S.11.2 Cars **must** compete in an event in a road legal condition

Safety

S.10.1.2 Roll-over safety bars are recommended to K.1.6.1 or K.1.6.2

S.10.1.7 Front seats may be replaced by fully trimmed Competition versions in the interests of safety

S.10.1.8 Seat belts **must** comply with K.2.1.1 (3 point)

Fuel

S.10.5.1 Pump fuel (see page 62) is mandatory. Only air may be mixed with the fuel as an oxidant

Transmission

S.10.8.1 Reverse gear **must** remain operable at all times

S.11.8.1 (a) The gearbox and differential casing **must** be of the original type and material and remain in their original position

S.11.8.1 (b) The method of gear selection **must** remain standard (sequential selection only where fitted as standard)

Chassis

S.11.3 Manufacturers original chassis structure and specification of construction, dimensions and material. Roll cages **must** not accept or assist any direct suspension loads

Body (including aerodynamics)

S.11.4.1 Silhouette of the vehicle **must** remain unaltered in construction, dimension and material. The silhouette **will** be taken in the condition in which the car competes (convertible closed cars competing with the hood or top not erected **shall** have the silhouette determined in that condition)

S.11.4.2 Engine bonnet/cover and luggage/boot cover may be replaced with an alternative material

S.11.4.3 Laminated windscreens permitted but all other glass may not be replaced by other material

S.11.4.4 Wheel arch extensions and bonnet louvers are permitted provided the silhouette continues to comply with S.11.4.1

S.11.4.5 Aerodynamic devices may be fitted provided the silhouette continues to comply with S.11.4.1

S.11.4.6 Interior trim **must** remain fitted (except floor carpets/mats)

S.11.4.7 All working equipment fitted as standard (heater mechanisms, sunroof, door handles) **must** remain operable at all times

Engines

S11.5.1 For Road Going Series Production Cars, the cylinder block and cylinder head **must** remain in the original position and be of the original type and material. Induction is free (forced induction equivalency applies as in S.10.3), as are exhaust systems, but **must** remain in the same capacity class as the original car or the manufacturer's specified option for the model and engine

S.11.5.2 For Road-Going Specialist Production Cars, the cylinder block and head **must** be of a make and type produced in at least 5,000 identical units originally available through the normal commercial channels of a land vehicle manufacturer

Wheels

S.11.6.1 Wheels are free

Tyres

S.11.6.2 Except for Period Defined Vehicles (Non Rally) A-H inclusive List 1A and 1B tyres can be used (see section L)

Suspension

S.11.7.1 Suspension configuration **must** remain standard

Category B – Modified Limited/Specialist Production Cars (excluding Group B Sports Cars, GT1 Sports Cars and World Rally Cars)

Classes

7. Up to 1400cc
8. From 1401cc to 2000cc
9. 2001cc and over

Description

- Limited Cars in S.14.1 (d) to (f) are prohibited from these categories
Must have been originally available through the normal commercial channels of the manufacturer in quantities of not less than 100 vehicles within 12 consecutive months (S.12.1)
Vehicles produced in lesser quantities may be admitted subject to the manufacturer obtaining approval from MSA (S.12.1.1)
- Specialist **Must** have been originally available through the normal commercial channels of the manufacturer in quantities of not less than 20 chassis within 12 consecutive months (S.12.2)

Safety

- S.10.1.3 Roll-over safety bars **must** comply with K.1.6.1 or K.1.6.2
- S.10.1.9 Seat belts **must** comply with K.2.1.2 (4 point)

Fuel

S.10.5.1 Pump fuel (see page 62) is mandatory. Only air may be mixed with the fuel as an oxidant

Chassis

- S.12.4.1 The chassis or unitary construction **must** remain to the manufacturer's original specification in construction and material within the wheel hub centres. Re-positioning of suspension pick-up points and engine mountings are permitted
- S.12.4.2 Inner wheel arches only may be modified to allow the attachment of damper mountings
- S.12.4.3 It is only permitted to make holes for the passage of cables, fuel, water, oil, hydraulic, instrument or fire extinguisher lines as per Vehicle Regulations. All redundant holes **must** be covered with metal plates

- S.12.4.4 Reinforcing of the chassis is allowed
- S.12.4.5 Bulkheads or inner wings may be modified to permit the clearance of the induction system. This **shall** be understood to include air induction ducting, manifolding, trumpets/ram pipes for engine carburetion or fuel injection system only. A maximum clearance of 7.75cm **will** be allowed for any protrusion, only in the engine compartment

Bodywork (including aerofoils)

- S.12.5.1 The silhouette as seen in side elevation **must** remain unaltered above the wheel hub centres of the original car, except for engine bonnet/cover and boot lid/rear deck
- S.12.5.2 The doors, engine bonnet/cover, luggage compartment cover, boot lid/rear deck or bodywork not forming part of the unitary construction may be changed for ones of different material, but **must** be of the same shape and dimensions. Wheel arch extensions are free
- S.12.5.3 Alternative materials may be used for external mudguards, if attached by bolts and/or rivets
- S.12.5.4 Detachable hardtops are permitted providing the silhouette remains unaltered
- S.12.5.5 Plastic is permitted for side and rear windows. A hole approximately 15cm diameter may be cut in the window next to the driver for signalling or ventilation
- S.12.5.6 Demisting apertures are permitted in the rear window. They **must** be in the form of holes or slots and be positioned close to the top or sides, but not both
- S.12.5.7 Open car with hoods may have them removed. Vehicles may run open or closed. If running closed, a rear window of safety glass or plastic of minimum thickness 4mm is mandatory
- S.12.5.8 Tonneau covers are permitted providing they are of flexible material and were originally specified for the vehicle
- S.12.5.9 It is prohibited to cut holes in any panel unless specifically permitted
- S.12.5.10 Front spoilers/air dams/splitters are permitted below the level of the road wheel centres, up to 15cm beyond the overall plan periphery of the existing bodywork, excluding bumpers. Rear spoilers are permitted within the overall plan periphery of the original vehicle excluding bumpers. A rear spoiler is a raised surface of opaque material integral with the rear deck with no gaps or openings in the surface, front or rear, and not exceeding half the vertical height of the original rear window fitted into the vehicle, measured at the centre of the original window. The vehicle manufacturer's original equipment, or a specified option for that vehicle is also permitted
- S.12.5.11 No part of the car, excluding a front spoiler if fitted, may touch the ground when any tyre is deflated
- S.12.5.12 It is permitted to remove the floor carpets, underfelt, sound installation throughout the car, the rear seat, the passenger's front seat and the head lining
- S.12.5.13 It is permitted to carry out modifications to window winders, instrument panels and all driving controls

Engine

- S.12.6.1 The engine block **must** be externally identifiable as that fitted to the original model or specified option and it **must** remain in the same capacity class as the original car or the manufacturer's specified option for the model and engine. Modifications to all components is permitted

- S.12.6.2 Engines fitted to Modified Specialist Production Cars (12.2) **must** be of a make and type produced in at least 5,000 identical units and fitted to a vehicle originally available through the normal commercial channels of a land vehicle manufacturer
- S.12.6.3 Induction system is free
- S.12.6.4 Oil coolers, dry sump lubrication systems or additional water radiators are permitted within the periphery of the bodywork
- S.12.6.5 **Must** be capable of being started from an on-board power source operable by the driver when seated normally
- S.12.6.6 Engine and transmission **must** remain in a similar position within the vehicle and in the same position relative to each other as in the original model

Transmission

- S.10.8.1 Reverse gear **not** required (following clarification by MSA)
- S.12.7.1 Transmission layout to remain as original
- S.12.7.2 Gearbox free
- S.12.7.3 Driven axle(s) free (see S.12.8.4)

Suspension

- S.12.8.1 Additions and modifications to springs, shock absorbers or suspension height are free
- S.12.8.2 The original type of suspension **must** be maintained (e.g. twin wishbone set-up cannot replace a single wishbone suspension; a sliding pillar cannot be replaced by a MacPherson strut; a trailing link cannot be replaced by wishbones or coaxial springs)
- S.12.8.3 A live rear axle may not be replaced by an independent system or De Dion
- S.12.8.4 A live rear axle is allowed location links. If leverarm shock absorbers are an original fitment, they may be replaced by a single location link
- S.12.8.5 Suspension pick-up point positions may be altered, providing the suspension system is maintained as being the original type
- S.12.8.6 Road springs are free
- S.12.8.7 The wheelbase **must** be to the dimensions of the original vehicle, plus or minus 2% or 5cm whichever is the greater

Electrical

- S.12.9.1 Electrics are free
- S.12.9.2 Electrical generators may be disconnected or removed

Category C – Sports Libre Cars

Classes

- 10. Up to 1800cc
- 11. 1801cc and over

Description

- S.14.1 Vehicles that comply with any of the following Groups:
 - (a) Special Saloons
 - (b) Hill Climb Supersports Chassis Cars
 - (c) Sports Racing Cars
 - (d) Group B Sports Cars (list of eligible cars is held by MSA)
 - (e) GT1 Sports Cars
 - (f) World Rally Cars
 - (g) Sports Racing Cars not complying with (c) above
- S.14.1.1 The Group to which the vehicle conforms **must** be declared at the time of entry. FIA homologation forms **must** be presented at scrutineering for vehicles in groups (d), (e) and (f)

Safety

S.10.1.4 Roll-over safety bars **must** comply with K.1.6.4 for cars in S.14.1(b); K.1.6.2 for cars in S.14.1(c) and FIA International Regulations for cars in S.14.1(a) and (d) to (f)

S.10.1.10 Seat belts **must** comply with K.2.1.3 (6 point)

Fuel

S.10.5.2 Only pump fuel or methanol may be used. When using methanol, the addition of 10% by volume of Propanone is allowable (Note J.5.13.6 – 3 inch diameter Day-Glo orange disc to be affixed next to competition numbers on both sides of car)

Transmission

S.10.8.2 Reverse gear is not required

Hillclimb Supersports Chassis Cars

S.14.2.1 In Sports Libre classes **must** comply with Hillclimb Supersports Regulations (S.13) except for: Maximum height 90cm from the ground; Maximum rear overhang 150cm behind rear wheel axis

Sports Racing Cars

S.14.2.2 In Sports Libre classes:

Maximum width – measurement between the outer tyre walls of the front or rear (whichever is the wider) + 20cm

Maximum rear overhang – 150cm behind rear wheel axis

Maximum height (open cars) – 90cm from the ground

Maximum front aerofoil height – not to exceed the top of the front wheel rim

Maximum rear aerofoil height (closed cars) – 90cm from the ground

S.14.2.5 Two seater Sports Racing Cars complying with 14.2.2 but with driver's seat crossed by the longitudinal centre line of the car and both seats crossed by the same transversal plane

Group B Sports Cars, GT1 Sports Cars and World Rally Cars

S.14.2.3 In Sports Libre classes **must** comply with FIA International Regulations

Special Saloons

S.14.2.4 In Sports Libre classes **must** comply with S.12.4.1 to S.12.5.13 and S.12.6.4 to S.12.9.2. Engines and tyres are free

Category D – Racing Cars

Classes

12 Up to 1600cc

13 1601cc and over

Safety

S.10.1.5 Roll-over safety bars **must** comply with K.1.6.3

S.10.1.10 Seat belts **must** comply with K.2.1.3 (6 point)

Fuel

S.10.5.2 Only pump fuel or methanol may be used. When using methanol, the addition of 10% by volume of Propanone is allowable (Note J.5.13.6 – 3 inch diameter Day-Glo orange disc to be affixed next to competition numbers on both sides of car)

Transmission

S.10.8.2 Reverse gear is not required

Dimensions

- S.15.1.1 Maximum width ahead of front wheels – 150cm
Maximum width behind front wheels – 140cm
Maximum height of any part wider than 110cm ahead of front wheels – not to exceed the top of the front wheel rim
Maximum height – 90cm from the ground
Maximum rear overhang – 150cm behind rear wheel axis
- S.15.1.2 Maximum height is measured with the car in any condition and driver aboard. Safety roll-over bars and air boxes are not included in this measurement

Wheels

- S.15.2.1 Twin rear wheels are permitted